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ABSTRACTS

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(Pages refer to the Japanese originals of this volume unless otherwise noted.)

Biochemical Studies of "Bakanae" Fungus.

Part 13. Action of Gibberellin on Tobacco Seedlings.

(pp. 1001∼1004)

By T. YABUTA, Y. SUMIKI, K. ASO, and T. HAYASI.

(Tokyo Imperial University; Received September 15, 1941.)

Studies on the Fat of *Phaseolus radiatus* L. var. *aurea* PRAIN. (I).

Fatty Acids and Sterols.

(pp. 1005∼1008)

By Nobuo ITO.

(Agr. Chem. Laboratory, Hokkaido Imperial University;
Received October 2, 1941.)

The fat of Azuki-bean (*Phaseolus radiatus* L. var. *aurea* PRAIN), from which the acetone-insoluble matters (23.6%) were excluded, has been studied by the author.

Some constants of the fat are as follows:—

d_4^{15}	0.9618
N_D^{20}	1.4670
Saponification value	176.56
Acid value	29.74
Iodine value	58.45

The neutralisation value of the unvolatile fatty acids is 197.07 and the iodine value 122.17.

In the unvolatile acids, the solid fatty acids amount to 25% and they consist of stearic acid 50%, palmitic acid 30% and carnaubic acid(?) 20%. The liquid fatty acids have been examined with the bromination and the hydrogenation methods, and ascertained to consist of $C_{18}H_{34}O_2$, $C_{18}H_{32}O_2$, and a little linolenic acid.

Unsaponifiable matters are crystalline and amount to 10.81% of the fat. Stigmasterol has been isolated and a more soluble phytosterol melting at 153°, with $[\alpha]_D^{16} = -40.85°$, has also been obtained from the matters.

A Method for Determining Milk Solids in Modified Milk Powders.

(pp. 1009～1018)

By Tomokiti Sakai.

(Research Laboratory of Meiji Sugar Co.; Received October 4, 1941)

Untersuchungen über das sogenannte „Gluconobacter.“ IV. Mitteilung.

(SS. 1019～1028)

Von Teijirô Uyemura und Keiji Kondo.

(Wissenchftl. Laboratorium von Ch. Takeda and Co. Ltd., Osaka;
Eingegangem am 28. 4. 1941.)

Investigation of Glutamic Acid Preparation. (Part V).

Experiment on a Semi-Industrial Scale.

(pp. 1029～1036)

By Bunzo Rokusho, Rishichi Tanaka, and Hiroshi Saito.

(The Central Laboratory, South Manchuria Railway Co., Dairen;
Received October 11, 1941.)

We studied the preparation of glutamic acid from various oil cakes produced in Manchuria, on a semi-industrial scale. 20 kgs. of oil cake were hydrolysed with 60 kgs. hydrochloric acid solution in an autoclave at 20 lbs/sq. in. in each case. The glutamic acid was isolated from its hydrochloride obtained from hydrolysate. The results were as follows.

Raw materials	Conc. of HCl %	The yield of glutamic acid %	
		Based on raw material	Based on protein
Soybean flake (extracted with EtOH)	22	5.15	10.84
Cotton seed press cake	24	4.08	10.07
Soybean flake (extracted with benzine)	22	4.61	9.84
Perilla press cake	22	4.17	12.84
Castor press cake	22	2.64	9.86
Peanut press cake	22	1.20	3.22

Digestibility of Acorns Fed to Sheep and Rabbits.

(pp. 1037～1047)

By Hisayoshi IWATA and Bunei HIROUCHI.

(Morioka Imperial College of Agriculture and Forestry;
Received September 1, 1941.)

About 80% of organic matter of the shelled and crushed acorns, and about 86% of their nitrogen free extract were digested by sheep and rabbits. The amount of the total digestible matter of the Japanese acorns was about 71%.

Relation of Fat to Riboflavin Requirement of Growing Rats.

(pp. 1048～1052)

By Ume TANGE.

(The Institute of Physical and Chemical Research; Received October 2, 1941.)

It has been demonstrated that the increased fat level in a riboflavin deficient ration has an injurious effect on the normal growth of rats, and that the administration of adequate amounts of riboflavin improves this condition.

The detailed accounts of this subject are now in press in the Scientific Papers of the I. P. C. R.

Functional Studies on Soil. (44～46).

(pp. 1053～1061)

By Hideo MISU.
(Agricultural Experiment Station, Government General of Tyosen;
Received August 4, 1941.)

On the Chemical Studies of the Baggasse Pulp. (7).

(pp. 1064～1066)

By T. TADOKORO and M. NISHIDA.
(Hokkaido Imperial University; Received August 30, 1941.)

Über die Verwandlungen der chemischen Zusammensetzungen der Getreidefenniche im Wachstum.

(SS. 1067～1076)

Von Tetujiro OBARA.
(Aus der landwirtschaftlichen Fachschule für Erziehung, Tokio, Nippon;
Eingegangen am 15. Okt. 1941.)

Study of the Insecticidal Principle in the Smoke Produced by Combusting Insect Powder. (Part VI)

(pp. 1077～1081)

By Makoto NAGASE.
(Agricultural Chemical Department, Taihoku Imperial University, Taiwan;
Received September 21, 1941.)

Biochemical Studies on the Tissues and Organs of the Silk Worm, *Bombyx mori* L.

Part II. On the Catalase Actions of the Malpighian Vessels.

(pp. 1082～1084)

By Takeo NAKASONE.
(Mie Prefectural Sericultural Experiment Station; Received September 22, 1941.)

The author studied the catalase actions of the Malpighian vessels of Bombyx mori during the larval growth and also some properties of the catalase in the Malpighian vessels of the full grown larva.

The results may be summarized as follows :—

1. The optimum conditions for the catalase activity in the Malpighian vessels are about pH 6.60 in reaction and about 20°C in temperature but the activity of the catalase gradually becomes weaker after twenty minutes even under those conditions.

2. The catalase of the Malpighian vessels of Bombyx mori reacts with a cycle in each stage of instar and pupa.

3. The activity of the catalase becomes weaker after ecdysis but it is stronger before ecdysis.

Studies on Ascorbic Acid. IV.

On the Action of Ascorbic Acid on Glutathione. II.

(pp. 1085∼1094)

By Kichinosuke FUJIMURA.

(Laboratory of Nutritional Chemistry, Dept. of Agricultural and Chemical Institute, Kyoto Imperial University;
Received October 14, 1941.)

Chemical Studies on Shark Meat (III).

Isolation of Shark Meat Protein.

(pp. 1095∼1101)

By Kinsuke KONDO, Tadao HATA, and Seiichi KIMURA.

(Nutritional Chemical Laboratory, Department of Agriculture, Kyoto Imperial University;
Received August 28, 1941.)

Über die Bestandteile der Japanischen Mistel.

IV. Mitteilung. Harz- und Fettsäure im Wachs.

(SS. 1102∼1106)

Von Yataro OBATA.

(Biochemiches Institut der Landwirtschaftlichen Fakultät, Universität Tokio;
Eingegangen am 23. Okt. 1941.)

Über die quantitative Bestimmung der Pyrethrine.

X. Mitteilung. Über den Pyrethringehalt und den Wirkungsgrad von Moskitostäbchen.

(SS. 1107～1110)

Von Sankiti TAKEI, Kiyosi WAKAZONO und Keizo HIRAOKA.

(Aus d. Institut f. Chem. Forschung, Universität Kyoto;
Eingegangen am 16. Okt. 1941.)